



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,489	04/19/2004	Charles A. Mistretta	960296.00092	3311
26710	7590	03/01/2006		
QUARLES & BRADY LLP 411 E. WISCONSIN AVENUE SUITE 2040 MILWAUKEE, WI 53202-4497			EXAMINER KAO, CHIH CHENG G	
			ART UNIT 2882	PAPER NUMBER

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/827,489

Applicant(s)

MISTRETTA ET AL.

Examiner

Chih-Cheng Glen Kao

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2 and 16-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Allowable Subject Matter*

1. The indicated allowability of claims 2 and 16-18 is withdrawn in view of the newly discovered reference(s) to Dawson (US Patent 5467377) and Mistretta (US Patent Application 2003/0013953). Rejections based on the newly cited reference(s) follow.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dawson in view of Ooshima (JP 06-125888).

Dawson discloses a method comprising a) producing a beam of x-rays with an x-ray source (fig. 1, #24) and directing it into a region of interest (fig. 1, #12) in accordance with a prescribed scan pattern (fig. 1); and b) detecting (fig. 1, #20) x-rays in the beam after they have passed through the region of interest (fig. 1, #12), wherein the x-ray source is mechanically moved around the region of interest when performing the prescribed scan pattern (fig. 2, R) and a focal point of the beam of x-rays is electronically moved to positions along an axial dimension of the region of interest when performing the prescribed scan pattern (col. 2, lines 43-44); and in

Art Unit: 2882

which steps a) and b) are repeated to acquire an additional set of image data with a second scan pattern that is interleaved with the prescribed scan pattern (fig. 1).

However, Dawson fails to disclose cone beams.

Ooshima teaches cone beams (title and fig. 7, #17).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Dawson with the cone beams of Ooshima, since one would be motivated to make such a modification for reducing artifacts (abstract, purpose) as implied from Ooshima and saving time.

3. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dawson in view of Ooshima and Mistretta.

For purposes of being concise, Dawson in view of Ooshima suggests a method as recited above.

However, Dawson fails to disclose transforming attenuation data sets acquired from spiral scan patterns to a corresponding series of k-space data sets, combining k-space data from temporally adjacent k-space data sets, and reconstructing an image from the combined k-space data, wherein the combined k-space data is formed by combining all of the k-space data from one of said k-space data sets with peripheral k-space data from another, temporally adjacent k-space data set, and wherein a series of images are produced by combining all of the k-space data from respective ones of the k-space data sets with peripheral k-space data from temporally adjacent k-space data.

Art Unit: 2882

Mistretta teaches transforming attenuation data sets acquired from spiral scan patterns (fig. 1) to a corresponding series of k-space data sets, combining k-space data from temporally adjacent k-space data sets, and reconstructing an image from the combined k-space data (paragraph 10), wherein the combined k-space data is formed by combining all of the k-space data from one of said k-space data sets with peripheral k-space data from another, temporally adjacent k-space data set, and wherein a series of images are produced by combining all of the k-space data from respective ones of the k-space data sets with peripheral k-space data from temporally adjacent k-space data (paragraph 45).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Dawson with the transforming of Mistretta, since one would be motivated to make such a modification for reducing artifacts (paragraph 11) as implied from Mistretta.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2882

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



gk



**EDWARD J. GLICK**  
**SUPERVISORY PATENT EXAMINER**